

in Colonial America generally, the social response to deviant behavior was relatively simple: the protection of the larger society was paramount, while the distinction between "illness" and "evil" was far less critical. Indeed, the social response to deviance largely stemmed from the severe puritanical belief in innate human evil that deserved violent retaliation such as whipping, pillories, stockades, brandings, and, ultimately, the gallows. At times, when there was a more "humane" response to persons viewed as suffering from lunacy, this response consisted simply of keeping the individual caged under lock and key, often for the rest of his life.

But in the early nineteenth century, a surge of great social optimism swept over America, and along with this grew a belief in the possibility of social reform, perhaps an overly optimistic faith in the possibility of rehabilitation of persons whose behavior was deviant. Not coincidentally, this spirit gave rise virtually simultaneously to two great social reform movements in the United States: the development of large mental hospitals and the construction of the first large penitentiaries.

Both of these institutions were founded upon a similar premise -- namely, that psychological and social deviance was largely a result of the evils and stresses of "modern society", and both held a fundamental belief that healing would naturally occur if the deviant individual was removed from the evils of the larger society, and thus enabled to know his own true nature.

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In the case of the mental hospital, this belief gave rise to the concept of a healing, pastoral, therapeutic community. But in the case of the penitentiary, an additional safeguard was obviously required; the inmates clearly had to be protected, not only from the evil influences of the broader society, but also from the evil influences of each other. The proper approach thus appeared to be to give each inmate the opportunity to live a life alone, like a penitent monk in his own monastic cell.

Thus, the earliest American penitentiaries were, generally, systems of rigid solitary confinement. Extravagant attention was paid to the design of these institutions, to ensure the absolute and total isolation of the offender from any "evil and corrupting influences." The Philadelphia Prison, completed in 1829, was particularly conscientious in this regard:

The arrangements . . . guaranteed that convicts would avoid all contamination and follow a path to reform. Inmates remained in solitary cells for eating, sleeping and working. . . . No precaution against contamination was excessive. Officials placed a hood over the head of a new prisoner when marching him to his cell so he would not see or be seen by other inmates Thrown upon his own innate sentiments, with no evil example to lead him astray, . . . the criminal would start his rehabilitation. Then, after a period of total isolation, without companions, books, or tools, . . . (he) would return to the community cured of vice and idleness, to take his place as a responsible citizen. (Rothman, pp 86-87)

The American penitentiary, and the Philadelphia System, became world-famous; no important visitor to the United States neglected to tour its penitentiaries and to bring back their principles for emulation in Europe. Some such as de Tocqueville of France and Nicholas Julius from Prussia came specifically for that purpose (Rothman p. 91). de Tocqueville wrote of the utter, "perfect" desolation of the American penitentiary, of the "profound silence" within its "vast walls," likening it to the silence of death. (Rothman, p. 97)

2. Psychological Effects of Severe Isolation

The openness with which these institutions were held up to public scrutiny led in time to open concern about the psychological effects of such confinement. During a tour of the United States in 1842, Charles Dickens wrote with pathos of the Philadelphia Prison:

The system here is rigid, strict and hopeless solitary confinement. . . . Over the head and face of every prisoner who comes into this melancholy house, a black hood is drawn, and in this dark shroud, . . . he is led to the cell from which he never again comes forth, until his whole term of imprisonment had expired. He is a man buried alive dead to everything but torturing anxieties and horrible despair

The first man I saw . . . answered . . . always with a strange kind of pause . . . he gazed about him and in the act of doing so fell into a strange stare as if he had forgotten something.

In another cell was a German . . . a more dejected, brokenhearted, wretched creature, it would be difficult to imagine.

There was a sailor . . . Why does he stare at his hands and pick the flesh open, upon the fingers, and raise his eyes for an instant . . . to those bare walls . . . ? (quoted in Liederman, p. 66)

American concern about the effects of rigid solitary confinement began as early as the 1830's. Statistical comparisons began to be made between the Philadelphia system and its chief competitor -- the Auburn system prevailing in New York State at Auburn and Sing-Sing penitentiaries. The latter system also utilized solitary confinement, but less rigidly; inmates left their cells to work together in workshops and

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exercise in a common courtyard, although here, too, absolute and strict silence was maintained at all times. Statistical comparisons began to generate evidence that "it was unnatural . . . to leave men in solitary, day after day, year after year; indeed, it was so unnatural that it bred insanity." (Rothman, p. 87). The Philadelphia Prison appeared to have a higher incidence, not only of insanity, but also of physical disease and death than its New York State counterparts.

Meanwhile, the American system had been emulated in many major European prisons, such as at Halle, Germany. Although the Americans had been the world leaders in instituting rigid solitary confinement in their penitentiary system, German clinicians eventually assumed the task of documenting its demise. Between 1854 and 1909, 37 articles appeared in German scientific journals on the subject of psychotic disturbances among prisoners, summarizing years of work and hundreds of cases. A major review of this literature was published in 1913; (Nitsche, 1913). A summary and synthesis of this rather large body of work appears as an appendix to this declaration.

But it should be noted that interest in the problem was not purely academic; psychotic disturbances among prisoners were of such frequency in these prisons that they attracted administrative as well as clinical concern, and great effort was made to explain this disturbing incidence. Thus, the literature covered a variety of issues, speculating for example, on the "moral degeneracy" of the prison population, some authors by comparing the psychopathology of those who committed "crimes of passion" with those who committed "crimes against property," or by detailing the incidence of the major diagnostic categories of the time (e.g., "circular insanity," "alcoholic psychoses," epilepsy, general paresis, etc.) among the prison population.

However, multiple reports based on careful clinical observation suggested that a substantial majority of these prison psychoses were direct reactions to the conditions of imprisonment itself. Gradually a clinically distinguishable syndrome of acute reactive prison psychoses began to be defined. Different variables were considered in attempting to explain the etiology of these reactive prison psychoses, including, for example, long versus short duration of imprisonment, or imprisonment of those already convicted versus imprisonment while awaiting trial. However, the most consistent factor described, reported in over half the total literature, was solitary confinement.

D. The Twentieth Century Experience: Prisoners of War, Brain Washing" and Experimental Research.

1. Prisoners of War and "Brainwashing".

Unfortunately, other than some anecdotal reports, there was little discussion of the psychological effects of solitary confinement in the medical literature during the first half of the twentieth century. Undoubtedly, this was in part a consequence of the disastrous earlier experience with such confinement. As statistical evidence accumulated during the nineteenth century that solitary confinement produced a very disturbing incidence of insanity, physical disease and death, the system had fallen into disrepute, and with this, it had changed from an open, optimistic experiment in social reform into a hidden, secretive place of punishment and control.

Its devastating psychological impact, however, did not change, a fact which became suddenly and very painfully evident in the 1950's as the American public began hearing the frightening and dramatic reports of "brainwashing" of American prisoners of war in Korea -- reports that alterations in the sensory environment were being intentionally imposed upon these prisoners in a seemingly Orwellian attempt to profoundly disrupt their psychological equilibrium. (Biderman and Zimmer, 1961).

By the 1950's, reports had already appeared of major psychiatric disturbances among survivors of prolonged solitary confinement in war (e.g., Burney, 1952), but during the decade of the Korean War,

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major attention was riveted on the occurrence of these disturbances, not only in war, but in a variety of other settings as well.

In 1956, the Group for the Advancement of Psychiatry (GAP) held a symposium -- "Factors Used to Increase the Susceptibility of Individuals to Forceful Indoctrination" -- to study methods used by the Chinese and Russian Communists to "indoctrinate" and "break the will" of political prisoners and prisoners of war.

Dr. M. Meltzer, former Chief Medical Officer at Alcatraz Federal Penitentiary contributed his observations of psychiatric disturbances among prisoners exposed to punitive solitary confinement at Alcatraz. These prisoners were rarely confined for periods beyond one week. (Meltzer, 1956) Despite this, Dr. Meltzer described acute psychotic breakdowns among prisoners so confined; his descriptions closely paralleled the observations at Walpole: "The motor effects ranged from occasional tense pacing, restlessness and sense of inner tension with noise making, yelling, banging and assaultiveness at one extreme, to a kind of regressed, dissociated, withdrawn hypnoid and reverie-like state at the other . . . (The) sense of self, the ego and the ego boundary phenomena are profoundly affected by the isolation." (Meltzer, p. 98)

In the same symposium, Dr. John Lilly of the National Institute of Mental Health noted that despite the importance of other factors which tended to "weaken personalities and make them more susceptible to

[forced indoctrination]" -- such as semi-starvation, physical pain and injury, and sleep deprivation -- social and sensory isolation was still the central pathogenic factor in such confinement. (Meltzer, p. 89)

2, Experimental Research on Sensory Deprivation.

An experimental model was therefore designed to study the effect of such sensory deprivation; this research, conducted during the 1950's and early 1960's, primarily at Harvard and McGill University Medical Centers, was in fact funded in large part by the United States Government -- and especially by the Department of Defense and U.S. Central Intelligence Agency. This research is described as an appendix to this declaration. Its relevant conclusions can, however, be described relatively briefly:

In these studies (Brownfield, 1965; Solomon, et al., 1961), subjects were placed in a situation designed to maximally reduce perceptually informative external stimuli (e.g., light-proof, soundproof rooms, cardboard tubes surrounding the arms and hands to reduce proprioceptive and tactile sensation, and so on). The research revealed that characteristic symptoms generally developed in such settings. These symptoms included perceptual distortions and illusions in multiple spheres, vivid fantasies, often accompanied by strikingly vivid hallucinations in multiple spheres, derealization experiences, and hyperresponsivity to external stimuli. What was also clear, however, was that while some subjects tolerated such experiences well, many did not, and a characteristic syndrome was observed, including not only the above symptoms, but also included cognitive impairment, massive free-floating anxiety, extreme motor restlessness, emergence of primitive aggressive fantasies which were often accompanied by fearful hallucinations, and with decreasing capacity to maintain an observing, reality-testing ego function. In some cases, an overt psychosis supervened with persecutory delusions and, in some cases, a marked dissociative, catatoniclike stupor (delirium) with mutism developed. EEG recordings confirmed the presence of abnormalities typical of stupor and delirium.

These findings clearly demonstrated that this experimental model did reproduce the findings in the nonexperimental situations, including the findings among prisoners of War, held in solitary confinement.

E. Factors Affecting Response to Sensory Restriction and Solitary Confinement.

Much of the subsequent research in this area attempted to delineate variables which might explain these differing outcomes. These variables can be divided into two categories: i) differences among various

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conditions of perceptual deprivation, and ii) differences in preexisting personality functioning among individuals experiencing such conditions:

1. Differing Conditions of Isolation.

One of the factors that was commonly cited in the research was differences in the intensity and duration of the sensory deprivation; more severe sensory restriction, the presence of noxious stimulation, and longer duration of the sensory deprivation experience, have all been associated with an increased risk of adverse psychiatric consequences.

In my experience, while conditions experienced by inmates in various prison solitary confinement settings generally bear some similarities (e.g. a cell of roughly 50-80 square feet, approximately 22 1/2 hours/day locked in the cell, with about one hour/day 5-7 days/week of exercise yard), in other respects, the conditions are fairly variable. For example, some cells have barred doors, which allow better ventilation, sound transmission and visual connection with the outside environment than do mesh steel doors; solid steel doors are the most restrictive - especially when they are either hinged or slide shut with almost no air gap from the wall. Moreover, administrative conditions regarding the amount and circumstances of visitation, the availability of reading material, reading, and television, and so forth, are all factors which vary from institution to institution, and even from time to time within a given institution.

2. The Perceived Intent of the Isolation Experience.

In addition to the factors described above, another critical factor in determining the effect of isolation, appears to be the perceived intent of the isolation. Experimental research has demonstrated that an individual who receives clues which cause him to experience the isolation situation as potentially threatening, is far more likely to develop adverse psychiatric reactions to the isolation experience; conversely, if the subject has reason to believe the situation is likely to be benign, he will be far more likely to tolerate or even enjoy it. Among the latter group of subjects who tolerated isolation well, many reported pleasant or, at least nonthreatening, visual imagery, fantasy and hallucinatory experiences. "His mind may begin to wander, engage in daydreams, slip off into hypnogogic reveries with their attendant vivid pictorial images . . . he may be quietly having sexual or other pleasurable thoughts." (Wright & Abbey, 1965, pg. 6.)

This finding is perhaps not surprising. It appears that sensory restriction, produces perceptual disturbances and illusions, which are analogous to those produced by hallucinogenic drugs -- and clearly, while there are some individuals who could be said to have volunteered to undergo such hallucinatory, psychotic-like experiences, it must be almost uniformly terrifying to be forced involuntarily to undergo an experience similar to that induced by hallucinogenic drugs.

3. Individual Differences in Response.

Many studies have demonstrated that there is great variability among individuals in regard to their capacity to tolerate a given condition of sensory restriction. This variability helps to provide further insight into the nature of the toxic effect of such isolation conditions, and provides striking corroboration of the fact that such deprivation of environmental stimulation, especially when of prolonged duration, is toxic to brain functioning, and causes symptoms characteristic of stupor and delirium.

Generally, individuals with mature, healthy personality functioning and of at least average intelligence are most able to tolerate the regressive pull and perceptual intrusions of such isolation situations. On the other hand, individuals with primitive or psychopathic functioning, individuals with borderline cognitive capacities, impulse-ridden individuals and individuals whose internal emotional life is chaotic or fearful, are especially at risk for severe psychopathologic reactions to such isolation. (Appendix C describes these studies in more detail.)

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Moreover, there is clear evidence that in a situation of restricted environmental stimulation, preexisting central nervous system dysfunction is a major predisposing factor to the development of adverse psychiatric reactions and of overt delirium. For example, in one study of patients suffering visual deprivation following eye surgery (eye-patched patients), those patients with preexisting central nervous system dysfunction were found to be at especially high risk to develop symptoms of delirium. (Ziskind et.al. 1960). Moreover, the presence of a preexisting personality disorder or impairment of psychosocial functioning was associated with increased risk of incapacitating fearfulness, paranoia, agitation and irrational aggression towards staff (Klein & Moses 1974). (A more extensive review of this literature is contained in Appendix A to this declaration.)

In addition, individuals may at times be exposed to situations which cause impairment of central nervous system functioning. Such situations -- especially if they impair the individual's state of alertness, for example, sleep deprivation, abnormal sleep-wake cycles, or the use of sedating medication -- will substantially increase the individual's vulnerability to the development of delirium. Delirium among postsurgical patients, and the so-called "ICU Psychoses" are examples of this phenomenon. (Appendix A discusses this issue in more detail.) One of the characteristic difficulties experienced by inmates in solitary confinement is, in fact, abnormal sleep-wake cycles and impaired sleep.

a. Findings at Pelican Bay State Prison.

These findings received further corroboration in my observations of inmates at Pelican Bay State Prison, California. In 1991-92, as part of my participation in Madrid v. Gomez -- a class-action lawsuit challenging conditions at Pelican Bay State Prison, a new "supermax" facility in California -- I evaluated 49 inmates housed in the Special Housing Unit (SHU) at the institution, and prepared a lengthy report to the Federal Court of my findings. (Much of the literature review and historical material in the present declaration is taken from my Madrid declaration.) Many of the inmates I evaluated there suffered severe psychiatric disturbances while housed in Pelican Bay SHU -- either springing up de novo while so incarcerated, or representing a recurrence or severe exacerbation of preexisting illness. Of the 49 inmates I evaluated, at least 17 were actively psychotic and/or acutely suicidal and urgently in need of acute hospital treatment, and 23 others suffered serious psychopathological reactions to solitary confinement, including in several cases, periods of psychotic disorganization.

The clinical data at Pelican Bay also added striking corroboration that the severe and prolonged restriction of environmental stimulation in solitary confinement is toxic to brain functioning, by demonstrating that the most severe, florid psychiatric illnesses resulting from solitary confinement tend to be suffered by those individuals with preexisting brain dysfunction. As noted before, I have observed a high incidence of preexisting central nervous system dysfunction among inmates I evaluated in solitary confinement settings. This was also the case at Pelican Bay, and statistical analysis of the Pelican Bay data quite dramatically demonstrated that inmates with such preexisting vulnerability were the most likely to develop overt confusional, agitated, hallucinatory psychoses as a result of SHU confinement.

b. Attention Deficit and Antisocial Personality Disorders.

In addition, research regarding Attention Deficit Disorder and Antisocial Personality Disorder demonstrated that these conditions are similarly associated with a particular inability to tolerate restricted environmental stimulation. There is in fact increasing evidence that childhood impulsivity and Attention Deficit Hyperactivity Disorder bear some relationship to Antisocial Personality Disorder, that both are characterized by impulsivity and stimulation-seeking behavior, and that both involve biologically based abnormalities in central nervous system functioning. Moreover, the clinical literature demonstrates that individuals with Antisocial Personality Disorder are especially intolerant of restricted environmental stimulation. For example, Quay (1965) characterized the psychopathic individual as pathologically

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"stimulation seeking ... impulsive ... (and) unable to tolerate routine and boredom." (Appendix B contains